

REMARKS

The present application was filed on June 9, 2000 with claims 1-20. Claims 1-4, 6-13 and 15-20 are pending and claims 1, 10 and 19 are independent.

In the outstanding final Office Action, the Examiner: (i) rejected claims 1, 8-10 and 17-19 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,793,429 to Kim et al. (hereinafter "Kim"); (ii) rejected claims 2, 3, 6, 7, 11, 12, 15, 16 and 20 under 35 U.S.C. §103(a) as being unpatentable over Kim in view of Hellerstein et al., IEEE, May 1999 (hereinafter "Hellerstein"); and rejected claims 4 and 13 under 35 U.S.C. §103(a) as being unpatentable over Kim, in view of Hellerstein and Hellerstein et al., Conference of the Computer Measurement Group, December 1998 (hereinafter "Hellerstein2").

With regard to the rejection of claims 1, 8-10 and 17-19 under 35 U.S.C. §102(b) as being anticipated by Kim, Applicants assert that Kim fails to provide the necessary disclosure required to sustain a §102(b) rejection.

Independent claims 1, 10 and 19 recite techniques for providing on-line adaptive predictions for use by one or more applications and used in association with one or more operations for which predictions may be requested. The predictions are performed in accordance with at least one model, which includes one or more sub-models. At least one of the one or more sub-models are adapted and an optimum combination of sub-models is determined to be used in computing on-line predictions when a change is detected in data associated with the one or more operations for which predictions may be requested. One or more predictions are computed in response to one or more requests from the one or more applications, using the one or more sub-models determined to provide an optimum prediction combination.

Kim discloses methods of estimating motion in image data. However, Kim fails to disclose the determination of an optimum combination of sub-models to be used in computing on-line predictions, when a change is detected in data associated with the one or more operations for which predictions may be requested. Kim also fails to disclose the computing of one or more predictions, in response to one or more requests from the one or more applications, using the one or more sub-models determined to provide an optimum prediction combination.

In the final Office Action, the Examiner contends that Kim teaches the selection of a best model which yields the smallest sum of absolute difference error, where each model includes multiple elementary models. Applicant strongly disagrees. In providing support for the rejection the Examiner first refers to a portion of Kim describing the determination of an optimum motion vector by predicting a plurality of motion vectors based on a corresponding plurality of motion models and selecting the best model and vector which yields the smallest sum of absolute difference error. When an optimum motion vector is predicted, previously read motion vectors are adjusted relative to the optimum motion vector in order to provide an estimate of motion in an image data frame. There is no disclosure of a determination of an optimum combination of sub-models, nor a computation of a prediction using the optimum combination of sub-models.

The Examiner also refers to a portion of Kim describing a 3-D spatial model that includes multiple elementary models to effectively treat motion discontinuity. In the 3-D spatial model, motion in a reference block is predicted by combining information about a motion vector field in a coarser resolution image and information about the motion vector field in circumferential blocks. Again, there is no disclosure of a determination of an optimum combination of sub-models, nor a computation of a prediction using the optimum combination of sub-models.

Applicants also assert that the use of these portions of Kim in combination cannot be reconciled. It is not clear how the determination of an optimum vector that yields a smallest sum of absolute difference error may be used in combination with a 3-D spatial model that includes multiple elementary models to disclose the invention recited in independent claims 1, 10 and 19 of the present invention. Finally, assuming *arguendo* that the combination may be reconciled, Kim fails to disclose or suggest a determination of an optimum combination of sub-models and the computation of predictions using the optimum combination of sub-models.

Further, on page 10, paragraph 2, of the final Office Action the Examiner states that it would have been obvious to one of ordinary skill in the art that Kim teaches selecting an optimal combination of sub-models. This statement alone demonstrates that Kim does not provide the proper disclosure in order to sustain a §102(b) rejection.

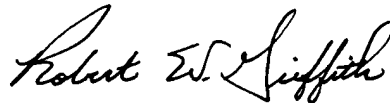
Applicants respectfully assert that claims 8, 9, 17 and 18 are patentable over Kim not only due to their respective dependence from independent claims 1 and 10, but also because such claims respectively recite patentable subject matter in their own right. Accordingly, withdrawal of the §102(b) rejection of claims 1, 8-10 and 17-19 is respectfully requested.

Regarding the §103(a) rejection of claims 2, 3, 6, 7, 11, 12, 15, 16 and 20 based on a combination of Kim and Hellerstein, Applicants assert that such dependent claims are patentable not only due to their respective dependence from independent claims 1, 10 and 19, but also because such claims respectively recite patentable subject matter in their own right. Accordingly, withdrawal of the §103(a) rejection of claims 2, 3, 6, 7, 11, 12, 15, 16 and 20 is respectfully requested.

Regarding the §103(a) rejection of claims 4 and 13 based on a combination of Kim, Hellerstein and Hellerstein2, Applicants assert that claims 4 and 13 are patentable not only due to their respective dependence from independent claims 1 and 10, but also because such claims respectively recite patentable subject matter in their own right. Accordingly, withdrawal of the §103(a) rejection of claims 4 and 13 is respectfully requested.

In view of the above, Applicants believe that claims 1-4, 6-13 and 15-20 are in condition for allowance, and respectfully request withdrawal of the §102(b) and §103(a) rejections.

Respectfully submitted,



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Robert W. Griffith
Attorney for Applicant(s)
Reg. No. 48,956
Ryan, Mason & Lewis, LLP
90 Forest Avenue
Locust Valley, NY 11560
(516) 759-4547

Enclosure(s): Notice of Appeal